

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the following remarks.

Claims 26-35, 38-43, 45, and 50-52 stand rejected, under 35 USC §103(a), as being unpatentable over 3GPP TS 25.309 v6.2.0 (hereinafter 3GPP '309) in view of Mueckenheim et al. (US 2006/0215604). Claim 37 stands rejected, under 35 USC §103(a), as being unpatentable over 3GPP '309 in view of Mueckenheim and 3GPP TSG-RAN WG2 #46 (hereinafter 3GPP WG2). The Applicants respectfully traverse these rejections based on the points set forth below.

Claim 26 defines a method for communicating control information associated with uplink data on an Enhanced Dedicated Channel (E-DCH) of a Universal Mobile Telecommunication System (UMTS). According to this method, a happy bit is transmitted, by a user equipment to a serving cell node, indicating, when set, that the user equipment could use more than a maximum amount of uplink resources allowed by scheduling grants for transmitting scheduled uplink data via the E-DCH. The happy bit is not set (i.e., happy condition) if the user equipment transmits uplink data via the E-DCH without utilizing the maximum amount of uplink resources, for scheduled uplink data, as allowed by scheduling grants. The claimed subject matter grants additional communication resources to a user equipment only if the user equipment is using the maximum uplink resources granted to it by a serving cell (see specification page 18, lines 26-31). Additionally, the claimed subject matter gives a serving cell the ability to determine whether a non-serving cell, within the user equipment's active set, has requested the user equipment to reduce its uplink resource utilization during a soft handover (see page 18, line 31, through page 19, line 2).

a) Scheduling Grants

Applicants submit that the Final Rejection's discussion of scheduling grants is not fully correct (see Final Rejection page 10, last paragraph, through page 11, first paragraph). A scheduling mechanism uses two types of grants, absolute grants (from the serving cell) and relative grants (from serving cell and non-serving cells). A (current) serving grant indicates the maximum amount of uplink resources a mobile terminal is (currently) allowed to utilize. Upon reception of an absolute grant, the serving grant is set equal to the absolute grant. Upon reception of a relative grant, the current serving grant is modified according the relative grant (UP/DOWN/HOLD) (see Applicants specification page 10, line 2 to page 11, line 18 of the application).

Hence, by contrast to the Final Rejection's discussion of scheduling grants (see Final Rejection page 11, first paragraph), both types of grants, absolute and relative grants, influence the maximum amount of uplink resources the mobile terminal is allowed to use. In the claim language, the expression "a maximum amount of uplink resources allowed by scheduling grants" means that absolute and relative grants allow a mobile terminal to transmit using up to a certain maximum amount of uplink resources.

b) Not Setting the Happy Bit

The Final Rejection proposes that the feature recited in claim 26 of:

not setting the happy-bit, if the user equipment transmits uplink data via the E-DCH without utilizing the maximum amount of uplink resources for scheduled uplink data as allowed by scheduling grants

is disclosed by Mueckenheim in paragraph [0006] (see Final Rejection, paragraph bridging pages 3 and 4). Mueckenheim discloses that:

A relative grant (or update) is sent to the UE on the Enhanced Relative Grant Channel (ERGCH) and serves as a complement to the absolute grant. A relative grant may adjust (e.g., increase or decrease) the selected enhanced transport format combination (ETFC) provided in an absolute grant, and may have one of three values, "Up", "Down", and "Hold". A relative grant may be generated by the Node-B, for example, in response to an "Up" rate request bit received from the UE over an enhanced dedicated physical control channel (EDPCCH).

And Mueckenheim's disclosure, immediately above, conforms with Applicants' discussion of scheduling grants provided in section (a), above.

Mueckenheim further discloses, with regard to setting the happy bit, that:

A rate request bit (e.g., a happy bit (HP)), which may indicate whether the UE is satisfied with the current parameters (e.g., the maximum ETFC) provided by a previous absolute grant or relative grant. (emphasis added)

With regard to the meaning of "satisfied," Mueckenheim discloses, in paragraph [0007], that when a UE is satisfied with current parameters (i.e., with the scheduling grants that have been received):

If the UE has power available to transmit data at a higher ETFC and the total amount of data in the transmit buffer would require a greater number of Transmission Time Intervals (TTIs) than currently allotted (e.g., via the previous scheduling grant), the UE may transmit an "Up" rate request bit. (emphasis added)

Hence, the UE must simultaneously fulfill two conditions linked by the "and" marked in the citation above: The first condition is "If the UE has power available to transmit data at a higher ETFC" which is identical to criterion (1) in 3GPP '309 and criterion a) in the claims of this application (see e.g., claims 27, 32, 39, etc.). The second condition that must be met as well is "the total amount of data in the transmit buffer would require a greater number of Transmission Time Intervals (TTIs) than currently allotted (e.g., via the previous scheduling

grant)" which is identical to criterion (2) in 3GPP '309 and criterion b) in the claims of this application (see e.g., claims 27, 32, 39, etc.).

Furthermore, it is also noted that "transmit an "Up" rate request bit" means that the happy bit is set, which indicates that the UE is not "satisfied with the current parameters," as disclosed by Mueckenheim in paragraph [0006].

As disclosed by Mueckenheim in paragraphs [0006] and [0007], Mueckenheim's conditions for setting/not setting the happy-bit are thus identical to criteria (1) and (2) of 3GPP '309. Thus, Mueckenheim's disclosure does not go beyond what is known from 3GPP '309.

However, in contrast to the Applicants' claimed subject matter, none of the conditions for deciding when to set the happy-bit (i.e., when to be "satisfied with the current parameters" or not, as per the terminology of Mueckenheim) disclosed by Mueckenheim and 3GPP '309 suggests the Applicants' claimed feature of:

not setting the happy-bit, if the user equipment transmits uplink data via the E-DCH without utilizing the maximum amount of uplink resources for scheduled uplink data as allowed by scheduling grants.

It is noted that this condition is a negative condition ("not setting") that is not checked in Mueckenheim or 3GPP '309.

Accordingly, the Applicants submit that the teachings of 3GPP '309 and Mueckenheim, even if combined as proposed in the Final Rejection, still would lack the above-noted features of claim 26 and thus these references, considered individually or in combination, do not render obvious the subject matter now defined by claim 26. Independent claims 38 and 45 similarly recite the above-mentioned subject matter distinguishing method claim 26 from the applied references, though claim 38 does so with respect to an apparatus and claim 45 does so with

respect to a computer-readable medium. Therefore, allowance of claims 26, 38, and 45 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

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JEL/DWW/att

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